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**Notes:**

1. Untranslatable words are replaced with asterisks (\*\*\*\*).
2. Texts in the figures are not translated and shown as it is.

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## FULL CONTENTS

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**[Claim(s)]**

[Claim 1]A madder, Curcumadomestica, \*\*\*\*\*\*, a yellowfin tuna, a Japanese pagoda tree, cochineal, a chestnut, an onion, Hair dye by which one sort chosen from powder, such as a root of vegetation containing natural dyeing-with-vegetable-dyes components, such as coffee, a stem, a leaf, a flower, a fruit, and a kind, or powder obtained from these extracts or two sorts or more being included as a main hair dyeing material.

[Claim 2]The hair dye according to claim 1 by which a component chosen from saccharides, such as vegetable components, such as tea leaves, a comfrey, chamomillae flos, chlorella, rosemary, and seaweed, cane sugar, and grape sugar, being included as an extender and/or an allocated type agent.

[Claim 3]Claim 1 characterized by including a thickening component of animal origin of a thickening component of vegetable origin of a guar gum, a seaweed extraction refining extract, etc., a silk protein, etc. in order to improve adhesion to hair, and operativity at the time of hair dyeing, or the hair dye according to claim 2.

[Claim 4]The hair dye according to any one of claims 1 to 3 characterized by including a natural product or a chemical addition ingredient of oils, a conditioning agent, a surface active agent, a wetting agent, etc. in order to raise textures of hair.

[Claim 5]The hair dye according to any one of claims 1 to 4 by which antiseptics, such as paraben and benzoate, and/or an antioxidant, a pH adjuster, an ultraviolet ray absorbent, and an additive chosen from a chelating agent being included in order to improve temporal stability.

[Claim 6]The hair dye according to any one of claims 1 to 5 by which natural aromatic components, such as lavender, being included in order to raise quality.

[Claim 7]A set for hair dyeing consisting of a charge of hair dyeing material of following (1) - (4).

(1) A hair dye (2) aluminium given in either of Claim 1 to Claim 6, A treatment agent (A) containing a reducing agent and alkali chemicals, such as a mordant (3) sulfite compound which consists of metal simple substances, such as iron, copper, zinc, nickel, calcium, magnesium, tin, lead, and chromium, those metal salt, or those aqueous solutions, and a thiol system compound

(4) A treatment agent (B) containing oxidizing agents, such as a bromate compound

[Claim 8]A hair dyeing method mixing with a proper quantity of water, applying uniformly the hair dye (1) according to any one of claims 1 to 6 to hair, and carrying out hair dyeing to it.

[Claim 9]After applying a mordant (2) to hair uniformly, the hair dye (1) according to any one of claims 1 to 6 as it is or. [ carry out / it mixes with a proper quantity of water, applies uniformly, and / hair dyeing ] Or a hair dyeing method applying a mordant (2) uniformly and carrying out hair dyeing after mixing with water of remaining as it is or a proper quantity and applying uniformly the hair dye (1) according to any one of claims 1 to 6 to hair.

[Claim 10]After applying the treatment agent (A) and (3) to hair uniformly, apply the treatment agent (B) and (4) to hair uniformly, and hair dye (1) as it is, Or. [ carry out / it mixes with a proper quantity of water, applies uniformly, and / hair dyeing ] Or a hair dyeing method which mixes hair dye (1) with water of remaining as it is or a proper quantity, applies uniformly, and is characterized by applying the treatment agent (B) and (4) to hair uniformly, and carrying out hair dyeing to it after applying the treatment agent (A) and (3) to hair uniformly.

[Claim 11]A hair dyeing method applying to homogeneity a charge of hair dyeing material chosen from a mixture, a mordant (2), and the treatment agent (B) and (4) which were mixed with hair dye (1) or a proper quantity of water one by one, and carrying out hair dyeing after applying the treatment agent (A) and (3) to hair uniformly.

[Claim 12]A mixture mixed with hair dye (1) or a proper quantity of water after applying uniformly to hair a mixture (A) which mixed beforehand a treatment agent (A), (3), and a mordant (2), a hair dyeing method applying to homogeneity a charge of hair dyeing material chosen from the treatment agent (B) and (4) one by one, and carrying out hair dyeing.

[Claim 13]A hair dyeing method characterized by applying to homogeneity a charge of hair dyeing material chosen from a mixture (B) which mixed beforehand hair dye (1) and the treatment agent (B) and (4), and a mordant (2) one by one, and carrying out hair dyeing after applying

the treatment agent (A) and (3) to hair uniformly.

[Claim 14] A hair dyeing method applying to homogeneity a charge of hair dyeing material chosen from a mixture mixed with a mixture (C) which mixed beforehand a mordant (2) and the treatment agent (B) and (4), hair dye (1), or a proper quantity of water one by one, and carrying out hair dyeing after applying the treatment agent (A) and (3) to hair uniformly.

[Claim 15] A hair dyeing method applying uniformly a mixture (B) which mixed beforehand hair dye (1) and the treatment agent (B) and (4), and carrying out hair dyeing after applying uniformly to hair a mixture (A) which mixed beforehand a treatment agent (A), (3), and a mordant (2).

[Claim 16] After applying uniformly to hair a mixture (D) which mixed beforehand a treatment agent (A), (3), and hair dye (1), A hair dyeing method characterized by \*\* which applies to homogeneity a charge of hair dyeing material chosen from a mixture (C) which mixed beforehand a mordant (2), a treatment agent (B), (4) or a mordant (2), and the treatment agent (B) and (4) one by one, and carries out hair dyeing.

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#### [Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the hair dye which contains a natural dyeing-with-vegetable-dyes component as a main hair dyeing material, the set for hair dyeing, and the hair dyeing method using it.

[0002]

[Description of the Prior Art] Conventionally, there are some kinds of the components and methods of dyeing hair, for example, there are synthetic hair dye using the high oxidation dye of the hair dyeing effect and its durability, vegetable hair dye which uses as a principal component "HENA" currently used abundantly in the West, hair dye (what is called hair manicure) which blended the acid dye, etc. However, it is known that an oxidation dye will cause allergy to a human body, There are merits and demerits, respectively -- on the other hand, a color tone is restricted, and "HENA" does not adapt itself to Japanese black hair, and also has a report that allergy is caused, and an acid dye has a problem which skin will be dyed if robustness is bad in order to make it only sink into hair, and attached to skin.

[0003] On the other hand, the hair dye which made fluid silicone, paraffin, a vegetable or animal oil, etc. emulsified or suspended with a surface active agent etc. is proposed as powdered vegetable dye (JP,H10-53720,A etc.). However, although the improvement in the stability of \*\* or the functionality on hair dyeing operation is accepted, this hair dye cannot be said to be enough about the hair dyeing effect to which priority should be most given as hair dye, and has not resulted in the solution in question.

[0004]

[Problem to be solved by the invention] A natural dyeing-with-vegetable-dyes component is historied as a color to textiles for many years, and again, . It is a thing with the long history used as the colorant of foodstuffs, or Chinese orthodox medicine. and also cochineal is used as a

color -- chocolate and catsup. It is what is used for popsicle (strawberry sirup) NARUTO, boiled fish paste, etc., Curcumadomestica is used as a color and also it is used for coloring of foodstuffs, such as curry, healthy tea, or a health drink, it is used as a color and also \*\*\*\*\*\*, a yellowfin tuna, a Japanese pagoda tree, etc. are used as Chinese orthodox medicine. [0005]It is sensitive, and come to be able to carry out the hair dyeing of the person of the body which was not able to carry out hair dyeing by using such a natural dyeing-with-vegetable-dyes component for the hair dyeing of hair, or. The stimulus and damage over a scalp or hair are lost, and moreover the textures of new hair are obtained, and the hair dyeing effect of being able to reveal the color tone of dyeing with vegetable dyes to hair is expected. However, when this natural dyeing-with-vegetable-dyes component was used for the hair dyeing of hair, hair dyeing power was weak, the breadth of the color tone was hard to be obtained, and, moreover, durability had a problem that it was scarce.

[0006]The 1st purpose of this invention has the big hair dyeing power which exceeds the hair dyeing power of hair dye (what is called hair manicure) or the oxidation dye of 2 agent types which blended the acid dye, Robustness is high and it is providing the hair dye which the breadth of a color tone is obtained, and also it is sensitive, and comes to be able to carry out the hair dyeing of the person of the body which was not able to carry out hair dyeing, and the stimulus and damage over a scalp or hair are lost, and the textures of new hair are obtained, and can reveal the color tone of dyeing with vegetable dyes to hair.

[0007]The 2nd purpose of this invention is to provide the set for hair dyeing used in order to improve fixability and to improve robustness further while improving the color enhancement of such hair dye and enabling it to perform the hair dyeing of a larger color tone.

[0008]The 3rd purpose of this invention is to provide the method of dyeing hair using such hair dye or the set for hair dyeing.

[0009]

[Means for solving problem]In order to solve above-mentioned SUBJECT, [ hair dye given in Claim 1 ] A madder, Curcumadomestica, \*\*\*\*\*\*, a yellowfin tuna, a Japanese pagoda tree, cochineal, a chestnut, an onion, One sort chosen from powder, such as the root of the vegetation containing natural dyeing-with-vegetable-dyes components, such as coffee, a stem, a leaf, a flower, a fruit, and a kind, or the powder obtained from these extracts or two sorts or more are included as a main hair dyeing material.

[0010]The hair dye according to claim 2 contains the component chosen from saccharides, such as vegetable components, such as tea leaves, a comfrey, chamomillae flos, chlorella, rosemary, and seaweed, cane sugar, and grape sugar, as an extender and/or an allocated type agent in the hair dye according to claim 1.

[0011]In Claim 1 or the hair dye according to claim 2, the hair dye according to claim 3 contains the thickening component of the animal origin of the thickening component of the vegetable origin of a guar gum, a seaweed extraction refining extract, etc., a silk protein, etc. in order to improve the adhesion to hair, and the operativity at the time of hair dyeing.

[0012]In the hair dye according to any one of claims 1 to 3, the hair dye according to claim 4 contains the natural product or chemical addition ingredient of oils, a conditioning agent, a surface active agent, a wetting agent, etc. in order to raise the textures of hair.

[0013]In the hair dye according to any one of claims 1 to 4, the hair dye according to claim 5 contains antiseptics, such as paraben and benzoate, and/or an antioxidant, a pH adjuster, an ultraviolet ray absorbent, and the additive chosen from a chelating agent in order to improve temporal stability.

[0014]In the hair dye according to any one of claims 1 to 5, the hair dye according to claim 6 contains natural aromatic components, such as lavender, in order to raise quality.

[0015]Claim 7 of this invention is a set for hair dyeing consisting of a charge of hair dyeing material of following (1) - (4).

(1) A hair dye (2) aluminium given in either of Claim 1 to Claim 6, The treatment agent (A) containing a reducing agent and alkali chemicals, such as a mordant (3) sulfite compound which consists of metal simple substances, such as iron, copper, zinc, nickel, calcium, magnesium, tin, lead, and chromium, those metal salt, or those aqueous solutions, and a thiol system compound

(4) The treatment agent (B) containing oxidizing agents, such as a bromate compound

[0016]The hair dyeing method of this invention according to claim 8 is mixed with a proper quantity of water, and the hair dye (1) according to any one of claims 1 to 6 is uniformly applied to hair, and it carries out hair dyeing to it.

[0017]After applying a mordant (2) to hair uniformly, the hair dyeing method of this invention according to claim 9 the hair dye (1) according to any one of claims 1 to 6 as it is, Or after mixing with a proper quantity of water, applying uniformly, and carrying out hair dyeing, or mixing the hair dye (1) according to any one of claims 1 to 6 with the water of remaining as it is or a proper quantity and applying to hair uniformly, a mordant (2) is applied uniformly and hair dyeing is carried out.

[0018]After the hair dyeing method of this invention according to claim 10 applies the treatment agent (A) and (3) to hair uniformly, it applies the treatment agent (B) and (4) to hair uniformly, and hair dye (1) as it is, Or after mixing with a proper quantity of water, applying uniformly, and carrying out hair dyeing or applying the treatment agent (A) and (3) to hair uniformly, hair dye (1) is mixed with the water of remaining as it is or a proper quantity, and it applies uniformly, and the treatment agent (B) and (4) is uniformly applied to hair, and hair dyeing is carried out.

[0019]After the hair dyeing method of this invention according to claim 11 applies the treatment agent (A) and (3) to hair uniformly, it applies to homogeneity the charge of hair dyeing material chosen from the mixture, mordant (2), and the treatment agent (B) and (4) which were mixed with hair dye (1) or a proper quantity of water one by one, and carries out hair dyeing.

[0020]After the hair dyeing method of this invention according to claim 12 applies uniformly to hair the mixture (A) which mixed beforehand a

treatment agent (A), (3), and a mordant (2), The charge of hair dyeing material chosen from the mixture mixed with hair dye (1) or a proper quantity of water and the treatment agent (B) and (4) is applied to homogeneity one by one, and hair dyeing is carried out.

[0021]After the hair dyeing method of this invention according to claim 13 applies the treatment agent (A) and (3) to hair uniformly, it applies to homogeneity the charge of hair dyeing material chosen from the mixture (B) which mixed beforehand hair dye (1) and the treatment agent (B) and (4), and a mordant (2) one by one, and carries out hair dyeing.

[0022]After the hair dyeing method of this invention according to claim 14 applies the treatment agent (A) and (3) to hair uniformly, The charge of hair dyeing material chosen from the mixture which mixed the mordant (2) and the treatment agent (B) and (4) with the beforehand mixed mixture (C), hair dye (1), or a proper quantity of water is applied to homogeneity one by one, and hair dyeing is carried out.

[0023]After the hair dyeing method of this invention according to claim 15 applies uniformly to hair the mixture (A) which mixed beforehand a treatment agent (A), (3), and a mordant (2), it applies uniformly the mixture (B) which mixed beforehand hair dye (1) and the treatment agent (B) and (4), and carries out hair dyeing.

[0024]After the hair dyeing method of this invention according to claim 16 applies uniformly to hair the mixture (D) which mixed beforehand a treatment agent (A), (3), and hair dye (1), It is characterized by \*\* which applies to homogeneity the charge of hair dyeing material chosen from the mixture (C) which mixed beforehand a mordant (2), a treatment agent (B), (4) or the mordant (2), and the treatment agent (B) and (4) one by one, and carries out hair dyeing.

[0025]

[Mode for carrying out the invention]Hereafter, this invention is explained in detail. The hair dye which is one embodiment of this invention A madder, Curcumadomestica, \*\*\*\*\*\*, a yellowfin tuna, The root of the vegetation containing natural dyeing-with-vegetable-dyes components, such as a Japanese pagoda tree, cochineal, a chestnut, an onion, and coffee, the powder [-izing / a stem, a leaf, a flower, a fruit, a kind, etc. / powder / in the end of dried powder / which pulverized ], or the solvent (water.) from these It is hair dye which contains one sort chosen from desiccation and the powder which carried out freeze-dry and carried out disintegration in the extract which a with a carbon number of six or less alcohol, a polyol, acetone, ether, etc. were independent, or was extracted using two or more sorts of mixtures, or two sorts or more as a main hair dyeing material.

[0026][ as vegetation containing the natural dyeing-with-vegetable-dyes component used by this invention ] Concretely, for example A madder, a blue Japanese oak, an apricot, the India madder, Curcumadomestica, a plum, A Japanese pagoda tree, OHIRUGI, an oyster, oak, KARIYASU, a Chinese quince, gambir, A yellowfin tuna, Osmanthus fragrans, Clerodendron trichotomum, a camphor tree, a gardenia, the Japanese oak, a chestnut, KUROCHIKU, a mulberry, a zelkova, a laurel, a Geranium thunbergii Sieb. etZucc., tea, coffee, Cochineal, oak, a gallnut,

KOBANOGAMAZUMI, KOBUNAGUSA, a cherry tree, A pomegranate, garland chrysanthemum, SHIRAKASHI, \*\*\*\*\* ZUMI, a SEIYOU madder, SOYOGO, Machilus thunbergii, an onion, caryophylli flos, Houttuynia, NIKKEI, Benthamidia florida, Hull Zion, a peanut, a loquat, an areca palm, PEGUNOKI, carthami flos, a marigold, MIZUKI, Terminalia chebula, MUKUNOKI, MURASAKI, Alnus firma, YABUMAO, a dogwood, a candleberry myrtle, mugwort, a rack, green tea, logwood, etc. can be mentioned. A chestnut, an onion, coffee, etc. which are natural dyeing-with-vegetable-dyes components, such as a madder, Curcumadomestica, \*\*\*\*\* a yellowfin tuna, a Japanese pagoda tree, and cochineal, and foods also in these can be used preferably.

[0027]As for hair dye of this invention, it is preferred to carry out a vacuum packing package for example, using a plastic film bag or a glass bottle etc. which does not penetrate moisture, to store, convey and save, to open at the time of use, to take out inner hair dye, to use it as it is, or to add a proper quantity of water and to use.

[0028]Hair dye which is other embodiments of this invention to the expensive above-mentioned hair dye For increase in quantity or improvement in formability, An aloe, chamomillae flos, glycyrrhiza, chlorella, a comfrey, a cinnamon, shiitake mushroom, It is the hair dye which added saccharides, such as vegetable components, such as a jasmine, a sage, a ginseng, a garlic, tea, peppermint, a marigold, lavender, rosemary, and seaweed, cane sugar, grape sugar, fruit sugar, and an oligosaccharide, in proper quantity as an extender and/or an allocated type agent. Tea leaves, a comfrey, chamomillae flos, chlorella, rosemary, seaweed, saccharides, etc. can be preferably used also in these.

[0029]not being limited especially if an addition of an extender or an allocated type agent is the quantity of a range which does not have an adverse effect on the characteristics of hair dye of this invention, but usually receiving a total amount -- a 10 - 80 mass % grade -- 20-60 mass % grade addition is carried out especially.

[0030]Hair dye which is other embodiments of this invention is the hair dye which blended a proper quantity of thickening components in order to improve adhesion to hair, and operativity at the time of hair dyeing to the above-mentioned hair dye. As a thickening component, electrolytes, such as water soluble polymer substances, such as an a. natural article, a semisynthesis article, and synthetic compounds, b. sodium chloride, potassium chloride, and sodium sulfate, c. nonionic surfactant, d. oil, etc. can be used. In this invention, a thickening component of animal origin including vegetable components, such as a guar gum and a seaweed extraction refining extract, and a silk protein can be used preferably.

[0031]The thickening component which consists of a group of cellulose, alginate, and polysaccharide as other thickening components which can be used by this invention, Especially Methyl cellulose, ethyl cellulose, hydroxyethyl cell rolls, Methylhydroxyethyl cellulose, methyl hydroxypropylcellulose, Carboxymethylcellulose, polyvinyl alcohol, a carboxyvinyl polymer, it is independent [ of the thickening component chosen from alginic acid, sodium alginate, ammonium alginate, calcium alginate, gum arabic, xanthan gum, a carrageenan, and the group that

consists of those cationic derivatives ] -- it is -- two or more sorts of mixtures -- \*\*\*\* -- things are made.

[0032]Especially if the addition of a thickening component is the quantity of the range which does not have an adverse effect on the characteristics of the hair dye of this invention, it will not be limited, but it is usually preferred a 0.1 - 15 mass % grade and to become [ as opposed to / especially / a total amount ] a 0.2 - 10 mass % grade.

[0033]The hair dye which is other embodiments of this invention is the hair dye which added a natural origin component and chemical addition ingredients, such as oils, a conditioning agent, a surface active agent, and a wetting agent, in a proper quantity of ranges in order to raise the textures of hair to the above-mentioned hair dye.

[0034]As an addition ingredient which can be used by this invention, specifically, For example, lanolin, a mink oil, horse oil, oil of almonds, castor oil, jojoba oil, Animal and vegetable oil and fat, such as the Medford oil and olive oil; Cholesterol, The sterol of \*\* and vegetable origin, such as a lanolin alcohol and phytosterol, And those derivatives; A solid paraffin, ceresin, spermaceti wax, yellow bees wax, Minerals, such as a carnauba wax, the waxes of \*\* and vegetable origin; Liquid paraffin, Hydrocarbon oils, such as squalane; Lauryl alcohol, cetanol, cetostearyl alcohol, Higher alcohols, such as oleyl alcohol; Lauric acid, stearic acid, Higher fatty acid groups, such as oleic acid; A polyoxyethylene polyoxypropylene glycol, Isopropyl myristate, isopropyl palmitate, isoctaneacid cetostearyl, Synthetic oil, such as isostearic acid alkyl ester; Polyoxyethylene-alkyl-ether sulfate, Surface active agents, such as 2-alkyl N-carboxymethyl N-hydroxyethyl imidazolinium betaine and N-palm-oil-fatty-acid acyl L-glutamic acid salt, polyoxyethylene higher alcohol ether, Surface active agents, such as polyoxyethylene higher fatty acid ester and polyoxyethylene hydrogenated castor oil; Glycerol, Lower alcohol, such as polyhydric alcohol; ethanol, such as sorbitol, propylene glycol, and 1,3-butylene glycol; Hyaluronate, Moisturizers, such as a pyrrolidone-carboxylic-acid salt, hydrolysis collagen, a hydrolysis keratin, hydrolysis silk, and trehalose; cation-ized pharmaceutical preparation [, such as alkyl chloride trimethylammonium and cation-ized dextran, ]; etc. can be mentioned, [0035]A conditioning agent is added in order that \*\* easiness to comb may grant the effect of that \*\* hair is always pliant gently, it is easy to be collected, the appearance of \*\* hair with sufficient curl holdout has gloss, and there is a feeling of a body, strengthening \*\* hair which does not have the hair of hair in PASA \*\* well.

[0036]The hair dye which is other embodiments of this invention is the hair dye which added germicides, such as paraben and benzoate, antiseptics and/or the antioxidant, the pH adjuster, the ultraviolet ray absorbent, and the additive chosen from a chelating agent in order to improve temporal stability to the above-mentioned hair dye.

[0037]Especially if the addition of these additives is a range which does not spoil the expected effect of the hair dye of this invention, it will not be limited, but it is usually the range of 0.01 - 10 mass % to the whole hair dye. By less than 0.01 mass %, there is a possibility that temporal stability may not be acquired, and even if it adds exceeding 10 mass %, the

temporal stability beyond it is not acquired but it becomes uneconomical. [0038]As the germicide and antiseptics which are used by this invention, specifically, For example, acids and those salts, such as benzoic acid, salicylic acid, dehydroacetic acid, and sorbic acid, Sodium benzoate, oxybenzoic acid alkyl ester, cetylpyridinium chloride, A benzalkonium chloride, alkyl chloride trimethylammonium, phenoxyethanol, triclosan, trichlorocarbanilide, zinc pilus thione, ethanol, two or more sorts of these mixtures, etc. are mentioned. Generally, use of two or more sorts of germicides and antiseptics is effective.

[0039]Specifically as a chelating agent (sequestering agent) used by this invention, an ethylenediaminetetraacetic acid derivative, tripolyphosphate, a hexametaphosphoric acid salt, dihydroxyethyl glycine, citric acid, tartaric acid, gluconic acid, saccharic acid, etc. can be mentioned, for example. These demonstrate an effect by forming a little heavy metal ions and a water-soluble complex salt.

[0040]As a pH adjuster used by this invention, specifically, As an acid agent, for example, inorganic acid, such as hydrochloric acid, sulfuric acid, and phosphoric acid, acetic acid, Can mention acid salts, such as organic acids, such as citric acid, malic acid, and glycolic acid, or sodium hydrogensulfate, citric acid 1 sodium, and phosphoric acid 1 sodium, and as alkali chemicals for example, Alkali metals, such as sodium hydroxide and potassium hydroxide, magnesium hydroxide, The inorganic alkali of alkaline earth metals, such as a calcium hydroxide, ammonia, Monoethanolamine, diethanolamine, triethanolamine, Organic alkali, such as isopropanolamine, a further alkaline salt, For example, guanidine salt, such as an ammonium hydrogencarbonate, an ammonium carbonate and sodium carbonate, such as sodium citrate and phosphoric acid 3 sodium, and guanidine carbonate, lysine, arginine, 2-amino-2-methylpropanol, etc. can be mentioned.

[0041]Specifically as an ultraviolet ray absorbent used by this invention, benzophenone derivatives, such as oxybenzone, a BENZA triazole derivative, etc. can be mentioned, for example.

[0042]The antioxidant used by this invention prevents oxidation of the hair dye of this invention, and a hair dye composition, and specifically, For example, publicly known antioxidants, such as TOKOFENORU, NORUJI hydronalium guaiaretic acid, burylhydroxyanisole, dibutylhydroxytoluene, propyl gallate, sodium hydrogensulfite, an ERUSOBIN acid, p-hydroxyanisole, a tea extract, and an apple extract, can be used.

[0043]The hair dye which is other embodiments of this invention is the hair dye which added a proper quantity of perfume to the above-mentioned hair dye. Also in [ perfume's making a product as well as a pigment attractive, and raising commodity value ], it masks the offensive odor of other components, and also it is an important component.

[0044]While improving the color enhancement of the hair dye of this invention and enabling it to perform the hair dyeing of a larger color tone, in order to improve fixability and to improve robustness further, the set for hair dyeing which consists of a charge of hair dyeing material of following (1) - (4) is used.

(1) The hair dye (2) aluminium of this invention, iron, copper, zinc, nickel, The treatment agent (A) containing a reducing agent and alkali chemicals, such as a mordant (3) sulfite compound which consists of metal simple substances, such as calcium, magnesium, tin, lead, and chromium, those metal salt, or those aqueous solutions, and a thiol system compound  
(4) The treatment agent (B) containing oxidizing agents, such as a bromate compound

[0045]Even if it does not mordant in this invention, the hair dyeing of the hair can be carried out using the hair dye of this invention. [ however by mordanting using the mordant (2) which consists of metal simple substances, such as an aluminium, iron, copper zinc, nickel, calcium, magnesium, lead, and chromium, those metal salt, or those aqueous solutions ] While improving the color enhancement of the hair dye of this invention and being able to perform the hair dyeing of a larger color tone, the fixability of the hair dye of this invention can be improved and robustness can be improved further.

[0046]Even if it does not use a treatment agent (A) and a treatment agent (B) in this invention, the hair dyeing of the hair can be carried out using the hair dye of this invention. However, while improving the color enhancement of the hair dye of this invention and being able to perform the hair dyeing of a larger color tone by processing using a treatment agent (A) and a treatment agent (B), the fixability of the hair dye of this invention can be improved and robustness can be improved further.

[0047]The treatment agent (A) used in this invention is a reducing agent and alkali chemicals, such as a sulfite compound and a thiol system compound, an included treatment agent, and, [ as a reducing agent ] A sulfite compound like sodium hydrogensulfite and sodium sulfite concrete for example, . And it is a compound which has a sulphydryl group in intramolecular as a thiol system compound and amino acid system thiol compounds. Thioglycolic acid, thiolactic acid, 3-mercaptopropionic acid, thiotartaric acid, Thiomalic acid, dimercapto adipic acid, cysteine, N-acetylcysteine, Mercaptocarboxylic acid, such as homocysteine; Cysteamine derivative;2-mercaptopropanoic acid, such as cysteamine and N-acyl cysteamine, Mercapto alcohols, such as thio glycerol and 3-alkoxy 1-mercaptopropanoic acid; Methyl thioglycolate, Ethyl thioglycolate, glycol mono-thioglycolate, 1,2-propylene glycol mono-thioglycolate, Glycerol mono-thioglycolate, glycol monothio lactate, glycerol monothio lactate, glycerol mono-3-mercaptopropionate, cysteine methyl ester, Mercaptocarvone ester species, such as cysteine ethyl ester, homocysteine methyl ester, and homocysteine ethyl ester; Thioglycolamide, N-hydroxyethyl thioglycolamide, 3-mercaptopropionamide, Two or more sorts of mixtures, mercapto carboxylic amide, such as N-hydroxyethyl 3-mercaptopropionamide and cysteinamide, tocopherol, etc., etc. which are independent or are chosen from these are mentioned.

[0048]although the concentration in particular of the reducing agent in a treatment agent (A) is not limited -- usually -- 0.1 - 20 mass % -- it is 1 - 11 mass % preferably, and a dye affinity will be worsened, if concentration is ineffective at less than 0.1 mass % and exceeds 20 mass %.

[0049]As alkali chemicals used by this invention, specifically, For example, alkali metals, such as sodium hydroxide and potassium hydroxide, magnesium hydroxide, The inorganic alkali of alkaline earth metals, such as a calcium hydroxide, ammonia, Organic alkali, such as monoethanolamine, diethanolamine, triethanolamine, and isopropanolamine, a further alkaline salt, for example, sodium citrate, phosphoric acid 3 sodium, etc. can be mentioned. As alkali chemicals other than this, guanidine salt, such as an ammonium hydrogencarbonate, an ammonium carbonate, sodium carbonate, and guanidine carbonate, lysine, arginine, 2-amino-2-methylpropanol, etc. can be used.

[0050]although the concentration in particular of the above-mentioned alkali chemicals in a treatment agent (A) is not limited -- usually -- 0.01 - 10 mass % -- it is 1 - 7 mass % preferably. By less than 0.01 mass %, the effect does not exist, and if 10% mass % is exceeded, a dye affinity will be worsened.

[0051]The treatment agent (B) used in this invention is oxidizing agents, such as a bromate compound, an included treatment agent, and, [ as an oxidizing agent ] Specifically, perboric acid salt compounds, such as bromate compounds, such as sodium bromate and potassium bromate, sodium perborate, and perboric acid potassium, can be mentioned, for example. A bromate compound can be preferably used also in these.

[0052][ the treatment agent (A) treatment agent (B), and mordant (2) which are used in this invention ] in order to heighten the effect of the hair dye of this invention, in order to improve the operativity at the time of use, or in order [ that improves the daily stability of hair dye, etc. in using it mixing with hair dye ] to sake or maintain, A publicly known hair penetrant, a surface active agent, a thickener, a feel improver, oils, a conditioning agent, antiseptics, a pH adjuster, an ultraviolet ray absorbent, a chelating agent, a colorant, perfume, etc. can be suitably added in the range which does not spoil the engine performance of hair dye.

[0053]Next, the embodiment of the hair dyeing method of this invention which carries out hair dyeing using the hair dye (1) of the set for hair dyeing of this invention, a mordant (2), a treatment agent (A), (3), and a treatment agent (B) and (4) is described.

[0054](\*\*) A 1st embodiment of the hair dyeing method of this invention : using the hair dye (1) of this invention, mix with a proper quantity of water, apply hair dye (1) to hair uniformly, and carry out hair dyeing to it. Although not limited, after mixing with a proper quantity of water and applying hair dye (1) to hair uniformly for example, about 40-45 \*\*, especially hair dyeing conditions are neglected several minutes - about 30 minutes, and hair dyeing is carried out. After carrying out hair dyeing, hair is rinsed with water, and it dries and finishes. By deciding on the concentration of hair dye (1), temperature, and hair dyeing time, a shade can be adjusted and the size of a color tone can be extended.

[0055](\*\*) 2nd embodiment [ of the hair dyeing method of this invention ]: -- (\*\*) -- the hair dye (1) of this invention after applying a mordant (2) to -1 hair uniformly -- as it is -- or mix with a proper quantity of water, apply uniformly and carry out hair dyeing. or (\*\*) -- the hair dye (1) of -2 this invention -- as it is -- or after mixing with a proper quantity

of water and applying to hair uniformly, a mordant (2) is applied uniformly and hair dyeing is carried out. Although not limited, after they are mixed with the water of remaining as it is or a proper quantity and apply hair dye (1) to hair uniformly, for example, about 40-45 \*\*, several minutes - about 30 minutes, after neglect, especially hair dyeing conditions apply uniformly, and about 40-45 \*\*, a mordant (2) is neglected several minutes - about 20 minutes, and they carry out hair dyeing. After carrying out hair dyeing, hair is rinsed with water, and it dries and finishes. By deciding on the concentration of hair dye (1) and a mordant (2), temperature, and time, a shade can be adjusted and the size of a color tone can be extended. While improving the color enhancement of the hair dye (1) of this invention and being able to perform the hair dyeing of a larger color tone point mordanting or by back-mordanting using a mordant (2), the fixability of the hair dye (1) of this invention can be improved, and robustness can be improved further.

[0056](\*\*) 3rd embodiment [ of the hair dyeing method of this invention ]:  
-- (\*\*) -- applying the treatment agent (B) and (4) to hair uniformly, after applying the treatment agent (A) and (3) to -1 hair uniformly -- and hair dye (1) -- as it is -- or mix with a proper quantity of water, apply uniformly and carry out hair dyeing. or (\*\*) -2 -- hair dye (1) after applying the treatment agent (A) and (3) to hair uniformly -- as it is -- or it mixes with a proper quantity of water, and applies uniformly, and the treatment agent (B) and (4) is uniformly applied to hair, and hair dyeing is carried out to it. Although not limited, after they apply the treatment agent (A) and (3) to hair uniformly, about 40-45 \*\*, especially hair dyeing conditions are neglected several minutes - about 10 minutes, and after a flush, about 40-45 \*\*, it mixes with the water of remaining as it is or a proper quantity, and applies uniformly, hair dye (1) is neglected several minutes - about 30 minutes, and they carry out hair dyeing, for example. After carrying out hair dyeing, hair is rinsed with water, and it dries and finishes. By deciding on a treatment agent (A), (3), a treatment agent (B) and (4), the concentration of hair dye (1), temperature, and time, a shade can be adjusted and the size of a color tone can be extended. By processing using a treatment agent (A) and a treatment agent (B), the fixability of the hair dye (1) of this invention can be improved, and robustness can be improved further.

[0057](\*\*) A 4th embodiment of the hair dyeing method of this invention : apply to homogeneity the charge of hair dyeing material chosen from the mixture, mordant (2), and the treatment agent (B) and (4) which were mixed with hair dye (1) or a proper quantity of water one by one, and carry out hair dyeing, after applying the treatment agent (A) and (3) to hair uniformly. The example which specifically carries out hair dyeing in the following order can be given.

(\*\*) mixture (\*\*) mixed with -1:treatment agent (A) -> treatment agent (B) -> mordant (2) -> hair dye (1) or a proper quantity of water -- the mixture -> mordant (2) mixed with -2:treatment agent (A) -> treatment agent (B) -> hair dye (1) or a proper quantity of water

(\*\*) The mixture mixed with -3:treatment agent (A) -> mordant (2) -> hair dye (1) or a proper quantity of water -> treatment agent (B)

(\*\*) mixture (\*\*) mixed with -4:treatment agent (A) -> mordant (2) -> treatment agent (B) -> hair dye (1) or a proper quantity of water -- a -5: treatment agent (A) -> hair dye (mixture -> mordant (2 mixed with 1) or proper quantity of water) -> treatment agent (B)

(\*\*) The mixture mixed with -6:treatment agent (A) -> hair dye (1) or a proper quantity of water -> The treatment agent (B) -> mordant (2)

[0058]Although hair dyeing conditions in particular are not limited, after applying the treatment agent (A) and (3) to hair uniformly, for example, After applying uniformly, neglecting the treatment agent (B) and (4) after neglecting it several minutes - about 10 minutes and washing several minutes - about 10 minutes and washing it about 40-45 \*\* about 40-45 \*\*, hair dye (1) as it is, Or after mixing with a proper quantity of water and applying to hair uniformly, about 40-45 \*\*, it is neglected several minutes - about 30 minutes, and about 40-45 \*\*, it applies uniformly, a mordant (2) is neglected several minutes - about 10 minutes, and hair dyeing is carried out. After carrying out hair dyeing, hair is rinsed with water, and it dries and finishes. By deciding on the concentration of a treatment agent (A), (3), a treatment agent (B) and (4), hair dye (1), and a mordant (2), temperature, and time, a shade can be adjusted and the size of a color tone can be extended. By processing using a treatment agent (A) and a treatment agent (B), the fixability of the hair dye (1) of this invention can be improved, and robustness can be improved further. While improving the color enhancement of the hair dye (1) of this invention and being able to perform the hair dyeing of a larger color tone by mordanting using a mordant (2), the fixability of the hair dye (1) of this invention can be improved, and robustness can be improved further.

[0059](\*\*) A 5th embodiment of the hair dyeing method of this invention : apply to homogeneity the charge of hair dyeing material chosen from the mixture mixed with hair dye (1) or a proper quantity of water, and the treatment agent (B) and (4) one by one, and carry out hair dyeing, after applying uniformly to hair the mixture (A) which mixed beforehand a treatment agent (A), (3), and a mordant (2). The example which specifically carries out hair dyeing in the following order can be given.

(\*\*) The mixture mixed with -1:[treatment agent (A) + mordant (2)] -> hair dye (1) or a proper quantity of water -> treatment agent (B)

(\*\*) Hair dyeing can be carried out on the almost same conditions as the above-mentioned hair dyeing conditions except using the mixture (A) which mixed beforehand the mixture treatment agent (A) mixed with -2: [treatment agent (A) + mordant (2)] -> treatment agent (B) -> hair dye (1) or a proper quantity of water, (3), and a mordant (2). Since the mixture (A) which mixed the treatment agent (A) and the mordant (2) beforehand is used while generating the same operation effect as a 4th embodiment of the hair dyeing method of above-mentioned this invention, the number of hair dyeing work can decrease and time and effort and time can be lessened.

[0060](\*\*) A 6th embodiment of the hair dyeing method of this invention : apply to homogeneity the charge of hair dyeing material chosen from the mixture (B) which mixed beforehand hair dye (1) and the treatment agent (B) and (4), and a mordant (2) one by one, and carry out hair dyeing, after

applying the treatment agent (A) and (3) to hair uniformly. The example which specifically carries out hair dyeing in the following order can be given.

(\*\*) -1:treatment agent (A) -> [hair dye (1)+ treatment agent (B)]

(\*\*) -2:treatment agent (A) -> mordant (2) -> [hair dye (1)+ treatment agent (B)]

(\*\*) -3 : Treatment agent (A) -> [a hair dye (1)+ treatment agent (B)] -> mordant (2)

Hair dyeing can be carried out on the almost same conditions as the above-mentioned hair dyeing conditions except using the mixture (B) which mixed hair dye (1) and a treatment agent (B) beforehand. Since the mixture (B) which mixed hair dye (1) and a treatment agent (B) beforehand is used while generating the same operation effect as a 4th embodiment of the hair dyeing method of above-mentioned this invention, the number of hair dyeing work can decrease and time and effort and time can be lessened.

[0061](\*\*) A 7th embodiment of the hair dyeing method of this invention : apply to homogeneity the charge of hair dyeing material chosen from the mixture mixed with the mixture (C) which mixed beforehand the mordant (2) and the treatment agent (B) and (4), hair dye (1), or a proper quantity of water one by one, and carry out hair dyeing, after applying the treatment agent (A) and (3) to hair uniformly. The example which specifically carries out hair dyeing in the following order can be given.

(\*\*) mixture (\*\*) mixed with -1:treatment agent (A) -> [mordant (2)+ treatment agent (B)] -> hair dye (1) or a proper quantity of water -- mixture -> [mordant (2)+ treatment agent (B)] mixed with -2:treatment agent (A) -> hair dye (1) or a proper quantity of water

Hair dyeing can be carried out on the almost same conditions as the above-mentioned hair dyeing conditions except using the mixture (C) which mixed the mordant (2) and the treatment agent (B) beforehand. Since the mixture (C) which mixed the mordant (2) and the treatment agent (B) beforehand is used while generating the same operation effect as a 4th embodiment of the hair dyeing method of above-mentioned this invention, the number of hair dyeing work can decrease and time and effort and time can be saved.

[0062](\*\*) An 8th embodiment of the hair dyeing method of this invention : apply uniformly the mixture (B) which mixed beforehand hair dye (1) and the treatment agent (B) and (4), and carry out hair dyeing, after applying uniformly to hair the mixture (A) which mixed beforehand a treatment agent (A), (3), and a mordant (2). Specifically, hair dyeing is carried out in the following order.

(\*\*) -1: [treatment agent (A) + mordant (2)] -> [hair dye (1)+ treatment agent (B)]

Hair dyeing can be carried out on the almost same conditions as the above-mentioned hair dyeing conditions except using the mixture (B) which mixed beforehand the mixture (A) and hair dye (1) which mixed beforehand a treatment agent (A), (3), and a mordant (2), and the treatment agent (B) and (4). Since a mixture (A) and a mixture (B) are used while generating the same operation effect as a 4th embodiment of the hair

dyeing method of above-mentioned this invention, the number of hair dyeing work can decrease further, and time and effort and time can be saved.

[0063]A 9th embodiment of the hair dyeing method of this invention : (\*\*)  
After applying uniformly to hair the mixture (D) which mixed beforehand a treatment agent (A), (3), and hair dye (1), The charge of hair dyeing material chosen from the mixture (C) which mixed beforehand a mordant (2), a treatment agent (B), (4) or the mordant (2), and the treatment agent (B) and (4) is applied to homogeneity one by one, and hair dyeing is carried out. The example which specifically carries out hair dyeing in the following order can be given.

(\*\*) A -1:[treatment agent (A) + hair dye (1)] -> treatment agent (B)

(\*\*) A -2:[treatment agent (A) + hair dye (1)] -> mordant (2) -> treatment agent (B)

(\*\*) The -3:[treatment agent (A) + hair dye (1)] -> treatment agent (B) -> a mordant (2)

(\*\*) -4: [treatment agent (A) + hair dye (1)] -> [mordant (2)+ treatment agent (B)]

Hair dyeing can be carried out on the almost same conditions as the above-mentioned hair dyeing conditions except using a mixture (D) which mixed a treatment agent (A) and hair dye (1) beforehand, or a mixture (C) which mixed a mordant (2) and a treatment agent (B) beforehand further. Since a mixture (D) which mixed a treatment agent (A) and hair dye (1) beforehand, or a mixture (C) which mixed a mordant (2) and a treatment agent (B) beforehand further is used while generating the same operation effect as a 4th embodiment of a hair dyeing method of above-mentioned this invention, the number of hair dyeing work decreases, Time and effort and time can be saved.

[0064]

[Working example]Although an embodiment is given to below and this invention is explained to it still in detail, this invention is not limited to these embodiments.

[0065](Embodiment 1) A hair dyeing method of various kinds of this inventions indicated to an embodiment of above-mentioned this invention is used, A relation at the time of the following valuation method estimating textures (revelation condition of a color tone of dyeing with vegetable dyes) of thickness (hair dyeing power) of a color when the hair dyeing of the sample which bleached and decolorized a human hair bunch of about 1 g is carried out, hair dyeing time, durability (robustness), and a color is shown in Table 1.

[0066][Thickness of a color (hair-dyeing power)]: Judge the thickness of a color by viewing.

O : -- quite deep O: -- deep \*\*: -- thin x: -- a color hardly sticks [0067]

[Durability (robustness)]: Ten to 20 shampoos carry out after hair dyeing, and judge the grade of \*\*\*\* after ten shampoos.

O : -- \*\*: which hardly \*\*\*\* -- \*\*\*\* is seen -- x:\*\*\*\* is carrying out

[0068][Textures of a color (revelation condition of the color tone of dyeing with vegetable dyes)]

O : -- O: quite near a mass color -- \*\*: near a mass color -- a little artificial

color x: -- an artificial color [0069]

[Table 1]

染毛方法	色の濃さ	染毛時間	持続性	色の質感
(イ) - 1	△	○	△	◎
(ロ) - 1	○	△	○~△	◎~○
(ロ) - 2	○	△	○~△	◎~○
(ハ) - 1	○~△	△	△	○
(ハ) - 2	○~△	△	△	○
(ニ) - 1	◎	△	○	○~△
(ニ) - 2	◎	△	○	○~△
(ニ) - 3	◎	△	○	○~△
(ニ) - 4	○	△	○~△	○~△
(ニ) - 5	◎	△	○	○~△
(ニ) - 6	◎	△	○	○~△
(ホ) - 1	○	△	○~△	○~△
(ホ) - 2	◎	△	○	○~△
(ヘ) - 1	△	◎	△	○
(ヘ) - 2	◎	○	○	○~△
(ヘ) - 3	◎	○	○	○~△
(ト) - 1	◎	○	○	○~△
(ト) - 2	○~△	○	△	○
(チ) - 1	○~△	◎	△	○
(リ) - 1	○	◎	○~△	○
(リ) - 2	○	○	○~△	○
(リ) - 3	◎~○	○	○	○~△
(リ) - 4	◎~○	◎	○	○~△

[0070]Table 1 shows that the hair dyeing which can reveal the color tone of dyeing with vegetable dyes with high robustness and large breadth of a color tone can be performed with the hair dyeing method of this invention.

[0071](Embodiment 2) The hair dye 1 of this invention which consists of 0.5 g of \*\*\*\*\* and 0.08g of carrageenans was prepared, and the mixture which mixed this hair dye 1 with the water 5g was prepared. On the other hand, the treatment agent (A), the treatment agent (B), the mordant (alum liquid), and the mordant (ferric sulfate liquid) were prepared by the following formula. The formula of [a treatment agent (A)]: L-cysteine 3.5g thioglycolic acid 1.0g monoethanolamine 2.0g aqueous ammonia Proper quantity (pH 5 adjustment)

Water 100 g of totals are used.

[0072]The formula of [a treatment agent (B)]: Sodium bromate 7.0g water 93.0g [0073]The formula of [a mordant (alum liquid)]: Alum 5.0g water 95.0g [0074]The formula of [a mordant (ferric-sulfate liquid)]: Ferric sulfate 5.0g water 95.0g [0075]While carrying out the hair dyeing of the sample which bleached and decolorized the human hair bunch of about 1 g with the hair dyeing methods 1-6 of following this invention using said mixture and judging a color tone, The result of having evaluated the textures (revelation condition of the color tone of dyeing with vegetable dyes) of the thickness (hair dyeing power) of a color, durability

(robustness), and a color like Embodiment 1 is shown in Table 2.

[0076]A hair dyeing method of this invention: Apply uniformly the hair dyeing method 1:above-mentioned mixture to a sample, at 40 \*\*, wash after neglect for 30 minutes and dry.

Hair dyeing method 2: Apply the above-mentioned mixture to a sample uniformly, apply alum liquid (mordant) uniformly after neglect for 30 minutes at 40 \*\*, at 40 \*\*, wash after neglect for 10 minutes and dry.

Hair dyeing method 3: Apply the above-mentioned mixture to a sample uniformly, apply ferric sulfate liquid (mordant) uniformly after neglect for 30 minutes at 40 \*\*, at 40 \*\*, wash after neglect for 10 minutes and dry.

Hair dyeing method 4: After applying the treatment agent B to a sample uniformly after applying the treatment agent A to a sample uniformly and washing after neglect for 10 minutes at 40 \*\*, and washing after neglect for 10 minutes at 40 \*\*, apply the above-mentioned mixture uniformly, at 40 \*\*, wash after neglect for 30 minutes and dry.

Hair dyeing method 5 : Apply the treatment agent A to a sample uniformly, and at 40 \*\* After the neglect during 10 minutes, After applying the treatment agent B to a sample uniformly after washing, and washing after neglect for 10 minutes at 40 \*\*, the above-mentioned mixture is applied uniformly and alum liquid (mordant) is uniformly applied after neglect for 30 minutes at 40 \*\*, and at 40 \*\*, it washes after neglect for 10 minutes, and dries.

Hair dyeing method 6 : Apply the treatment agent A to a sample uniformly, and at 40 \*\* After the neglect during 10 minutes, After applying the treatment agent B to a sample uniformly after washing, and washing after neglect for 10 minutes at 40 \*\*, the above-mentioned mixture is applied uniformly and ferric sulfate liquid (mordant) is uniformly applied after neglect for 30 minutes at 40 \*\*, and at 40 \*\*, it washes after neglect for 10 minutes, and dries.

[0077]

[Table 2]

染毛方法		1	2	3	4	5	6
染毛用 材 料	処理剤 A				※	※	※
	処理剤 B				※	※	※
	染毛剤	※	※	※	※	※	※
	媒染剤		明ばん	硫酸鉄		明ばん	硫酸鉄
色の濃さ(染毛力)		△	○	△～○	◎	◎	◎
色調	薄赤茶色	赤橙色	濃茶色	薄橙茶色	濃茶色	薄赤黒色	
色の質感	◎	◎～○	○	○	○～△	○～△	
堅性	シャンプー10回	△	△～○	△～○	△	○	○
	シャンプー20回	×	△	△	△～×	○～△	○～△

(※は処理を行った)

[0078]From Table 2, by being able to raise hair dyeing power, and being able to change a color tone, and using a treatment agent (A) and a treatment agent (B), hair dyeing power is raised further and by using a mordant shows that change of a color tone can be issued. A shampoo test shows that \*\*\*\*\* becomes good further and robustness improves by \*\*\*\*\*'s becoming good and robustness's improving, if a mordant is used,

and using a treatment agent (A) and a treatment agent (B). By adding a carrageenan, the adhesion to hair increased and the operativity at the time of spreading improved.

[0079](Embodiment 3) The hair dye 2 of this invention which consists of 0.5 g of Japanese pagoda trees and 0.08g of carrageenans was prepared, and the mixture which mixed this hair dye 2 with the water 5g was prepared. While carrying out the hair dyeing of the sample like Embodiment 1 and judging a color tone using this mixture, the result of having evaluated the textures (revelation condition of the color tone of dyeing with vegetable dyes) of the thickness (hair dyeing power) of a color, durability (robustness), and a color like Embodiment 1 is shown in Table 3.

[0080]

[Table 3]

染毛方法	1	2	3	4	5	6
染毛用材料	処理剤 A			※	※	※
	処理剤 B			※	※	※
	染毛剤	※	※	※	※	※
	媒染剤		明ばん	硫酸鉄	明ばん	硫酸鉄
色の濃さ(染毛力)	△	○	△～○	◎	◎	◎
色調	薄黄色	黄色	深緑色	薄黄色	黄橙色	薄緑黒色
色の質感	◎	◎～○	○	○	○～△	○～△
堅弾性	シャンプー10回	△	△～○	△～○	△	○
	シャンプー20回	×	△	△	△～×	○～△

(※は処理を行った)

[0081]From Table 3, by being able to raise hair dyeing power, and being able to change a color tone, and using a treatment agent (A) and a treatment agent (B), hair dyeing power is raised further and by using a mordant shows that change of a color tone can be issued. A shampoo test shows that \*\*\*\*\* becomes good further and robustness improves by \*\*\*\*\*'s becoming good and robustness's improving, if a mordant is used, and using a treatment agent (A) and a treatment agent (B). By adding a carrageenan, the adhesion to hair increased and the operativity at the time of spreading improved.

[0082](Embodiment 4) The hair dye 3 of this invention which consists of the cochineal 0.1g, 0.08 g of carrageenans, and the grape sugar 0.32g was prepared, and the mixture which mixed the hair dye 3 with the water 5g was prepared. While carrying out the hair dyeing of the sample like Embodiment 1 and judging a color tone using this mixture, the result of having evaluated the textures (revelation condition of the color tone of dyeing with vegetable dyes) of the thickness (hair dyeing power) of a color, durability (robustness), and a color like Embodiment 1 is shown in Table 4.

[0083]

[Table 4]

染毛方法	1	2	3	4	5	6
染 毛 用 材 料	処理剤 A			※	※	※
	処理剤 B			※	※	※
	染毛剤	※	※	※	※	※
	媒染剤		明ばん	硫酸鉄		明ばん 硫酸鉄
色の濃さ(染毛力)	△	○	△～○	◎	◎	◎
色調	薄桃灰色	薄紫色	灰茶色	赤灰色	濃赤紫色	濃赤黒色
色の質感	◎	◎～○	○	○	○～△	○～△
堅 性	シャンプー10回	△	△～○	△～○	△	○
	シャンプー20回	△～×	△	△	△～×	○～△

(※は処理を行った)

[0084]From Table 4, by being able to raise hair dyeing power, and being able to change a color tone, and using a treatment agent (A) and a treatment agent (B), hair dyeing power is raised further and by using a mordant shows that change of a color tone can be issued. A shampoo test shows that \*\*\*\*\* becomes good further and robustness improves by \*\*\*\*\*'s becoming good and robustness's improving, if a mordant is used, and using a treatment agent (A) and a treatment agent (B). By adding a carrageenan, the adhesion to hair increased and the operativity at the time of spreading improved. By carrying out grape sugar addition, the pharmaceutical form of the hair dye as fine particles has been maintained.

[0085](Embodiment 5) The hair dye 3 of this invention which consists of 10 g of \*\*\*\*\* and 1.6g of guar gums was prepared, and the mixture which mixed the hair dye 3 with the water 100g was prepared. The hair dyeing of the hair of about 30% of white hair was carried out using the hair dyeing method 3 using this mixture. This hair dye does not have the stimulus or damage over a scalp or the hair, and, moreover, skin did not dye about skin, either, but hair dyeing could be carried out to the natural color tone which pressed down yellowish color of white hair, and new textures were obtained. A color tone is natural brown, whole mist and brightness came out, and white hair stopped being conspicuous. Although \*\*\*\* was seen a little one month afterward, there is no boundary line of a predyed part and a new part, and there was durability of textures in the state of natural sensibility.

[0086](Embodiment 6) The hair dye 3 of this invention which consists of 10 g of Japanese pagoda trees and 1.6g of guar gums was prepared, and the mixture which mixed the hair dye 3 with the water 100g was prepared. The hair dyeing of the hair of about 30% of white hair was carried out using the hair dyeing method 6 using this mixture. This hair dye does not have the stimulus or damage over a scalp or the hair, and, moreover, skin did not dye about skin, either, but hair dyeing could be carried out to the natural color tone which pressed down yellowish color of white hair, and new textures were obtained. The color tone became natural black and white hair stopped being conspicuous. \*\*\*\* was not seen but one month after [ most ] had the durability of textures in the state of natural sensibility.

[0087](Embodiment 7) The hair dye 3 of this invention which consists of 10 g of Alnus firma and 1.6g of guar gums was prepared, and the mixture

which mixed the hair dye 3 with the water 100g was prepared. The hair dyeing of the hair of about 30% of white hair was carried out using the hair dyeing method 3 using this mixture. This hair dye does not have the stimulus or damage over a scalp or the hair, and, moreover, skin did not dye about skin, either, but hair dyeing could be carried out to the natural color tone which pressed down yellowish color of white hair, and new textures were obtained. The color tone became natural deep brown and white hair stopped being conspicuous. \*\*\*\* was not seen but one month after [ most ] had the durability of textures in the state of natural sensibility.

[0088](Embodiment 8) The hair dye 3 of this invention which consists of the cochineal 2g, 1.6 g of carrageenans, and 6.4g of grape sugar (powder) was prepared, and the mixture which mixed this hair dye 3 with the water 100g was prepared. And the hair dyeing of the hair of about 30% of white hair was carried out using the hair dyeing method 5 using this mixture. This hair dye does not have the stimulus or damage over a scalp or the hair, and, moreover, skin did not dye about skin, either, but hair dyeing could be carried out to the natural color tone which pressed down yellowish color of white hair, and new textures were obtained. As for the color tone, the whole sensed redness a little, and the white hair portion became a red purple color, and became a hair dye of foppish sensibility. \*\*\*\* was not seen but one month after [ most ] had the durability of textures in the state of natural sensibility.

[0089](Embodiment 9) The hair dye 3 of this invention which consists of the cochineal 1g, 1.6 g of carrageenans, and 7.4g of grape sugar (powder) was prepared, and the mixture which mixed this hair dye 3 with the water 100g was prepared. And the hair dyeing of the hair of about 30% of white hair was carried out using the hair dyeing method 3 using this mixture. This hair dye does not have the stimulus or damage over a scalp or the hair, and, moreover, skin did not dye about skin, either, but new textures were obtained. Although there was almost no change of a black-hair portion, yellowish color of a white hair portion is lost and white hair came to look whiter. Yellowish color of a white hair portion was not seen, but one month after had the durability of textures.

[0090]

[Effect of the Invention]The hair dye of this invention according to claim 1 A madder, Curcumadomestica, \*\*\*\*\*\*, a yellowfin tuna, a Japanese pagoda tree, The root of the vegetation containing natural dyeing-with-vegetable-dyes components, such as cochineal, a chestnut, an onion, and coffee, It is hair dye which contains one sort chosen from powder, such as a stem, a leaf, a flower, a fruit, and a kind, or the powder obtained from these extracts, or two sorts or more as a main hair dyeing material, Have big hair dyeing power and robustness is high, the breadth of a color tone is obtained and also safety is high, It is sensitive, and the hair dyeing also of the person of the body which was not able to carry out hair dyeing can be carried out, and he does not have the stimulus or damage over a scalp or hair, and the textures of new hair are obtained, and the prominent effect that the color tone of dyeing with vegetable dyes can be revealed to hair is generated.

[0091]While the hair dye of this invention according to claim 2 generates the same effect as the hair dye according to claim 1, [ the hair dye ] Since the component chosen from saccharides, such as vegetable components, such as tea leaves, a comfrey, chamomillae flos, chlorella, rosemary, and seaweed, cane sugar, and grape sugar, was blended as an extender and/or an allocated type agent, the prominent effect that a pharmaceutical form etc. can be improved in the range which does not spoil the engine performance and effect of hair dye is generated.

[0092]While the hair dye of this invention according to claim 3 generates the same effect as the hair dye according to claim 1 to 2, [ the hair dye ] Since the thickening component of the animal origin of the thickening component of the vegetable origin of a guar gum, a seaweed extraction refining extract, etc., a silk protein, etc. was blended, the prominent effect that the adhesion to hair and the operativity at the time of hair dyeing can be improved is generated.

[0093]Since the hair dye of this invention according to claim 4 blended the natural product or chemical addition ingredient of oils, a conditioning agent, a surface active agent, a wetting agent, etc. while generating the same effect as the hair dye according to claim 1 to 3, it generates the prominent effect that the textures of hair can be raised.

[0094]While the hair dye of this invention according to claim 5 generates the same effect as the hair dye according to claim 1 to 4, [ the hair dye ] Since antiseptics, such as paraben and benzoate, and/or the antioxidant, the pH adjuster, the ultraviolet ray absorbent, and the additive chosen from a chelating agent were blended, the prominent effect that the temporal stability of hair dye itself can be improved is generated.

[0095]Since it blended natural aromatic components, such as lavender, it makes a product attractive, and the hair dye of this invention according to claim 6 raises commodity value, and generates the prominent effect of being able to mask the offensive odor of other components while it generates the same effect as the hair dye according to claim 1 to 5.

[0096]While improving the color enhancement of the hair dye (1) of this invention and being able to perform now the hair dyeing of a larger color tone by using it combining charge [ of the hair dye set of this invention according to claim 7 ] of hair dyeing material (1) - (4), The prominent effect that fixability can be improved and robustness can be improved further is generated.

[0097]With for example, the combination of the hair dye (1) of this invention and the mordant (2) containing yellow system natural dyeing-with-vegetable-dyes components, such as a yellowfin tuna, Curcumadomestica, and a Japanese pagoda tree, light yellow - the color tone of the broad range of until green black can be taken out, and a shade is adjusted with the concentration of hair dye (1) and a mordant (2), hair dyeing time, or processing time -- things can be carried out.

[0098]With the combination of the hair dye (1) of this invention and the mordant (2) which contain red system natural dyeing-with-vegetable-dyes components, such as a madder, \*\*\*\*\* , and a Japanese pagoda tree, for example, the color tone of the broad range of light orange - until red black can be taken out, and a shade is adjusted with the concentration of hair dye

(1) and a mordant (2), hair dyeing time, or processing time -- things can be carried out.

[0099]With the combination of the hair dye (1) of this invention and the mordant (2) which contain tannin system natural dyeing-with-vegetable-dyes components, such as logwood and Alnus firma, for example, the color tone of light brown - the broad range of until black can be taken out, and a shade is adjusted with the concentration of hair dye (1) and a mordant (2), dyeing time, or processing time -- things can be carried out.

[0100]The prominent effect that the textures of new hair which have a color tone of dyeing with vegetable dyes with the hair dyeing method of this invention according to claim 8 while being able to perform hair dyeing with high robustness and large breadth of a color tone are obtained is generated.

[0101]While improving the color enhancement of hair dye and being able to perform the hair dyeing of a larger color tone with point mordanting or the back-mordanted hair dyeing method using the mordant of this invention according to claim 9, The fixability of hair dye is improved, robustness can be improved further, and the prominent effect that the textures of new hair which have a color tone of dyeing with vegetable dyes are obtained is generated.

[0102]While being able to improve the fixability of hair dye, being able to improve robustness further with the hair dyeing method processed using the treatment agent (A) of this invention according to claim 10, and a treatment agent (B) and being able to perform hair dyeing with large breadth of a color tone, The prominent effect that the textures of new hair which have a color tone of dyeing with vegetable dyes are obtained is generated.

[0103]After applying uniformly the treatment agent (A) of this invention according to claim 11 to hair, with the hair dyeing method which applies to homogeneity the charge of hair dyeing material chosen from the mixture, mordant, and treatment agent (B) which were mixed with hair dye or a proper quantity of water one by one, and carries out hair dyeing, While being able to improve the fixability of hair dye and being able to improve robustness further, the color enhancement of hair dye is improved, the hair dyeing of a larger color tone can be performed, and the breadth of a color tone is large and generates the prominent effect that the textures of new hair which have a color tone of dyeing with vegetable dyes are obtained.

[0104]Since the mixture (A) which mixed the treatment agent (A) and the mordant beforehand is used with the hair dyeing method of this invention according to claim 12 while generating the same operation effect as the hair dyeing method according to claim 11, the number of hair dyeing work decreases and the prominent effect that time and effort and time can be lessened is generated.

[0105]Since the mixture (B) which mixed hair dye and a treatment agent (B) beforehand is used with the hair dyeing method of this invention according to claim 13 while generating the same operation effect as the hair dyeing method according to claim 11, the number of hair dyeing work decreases and the prominent effect that time and effort and time can be

lessened is generated.

[0106] Since the mixture (C) which mixed the mordant and the treatment agent (B) beforehand is used with the hair dyeing method of this invention according to claim 14 while generating the same operation effect as the hair dyeing method according to claim 11, the number of hair dyeing work decreases and the prominent effect that time and effort and time can be saved is generated.

[0107] Since a mixture (A) and a mixture (B) are used with the hair dyeing method of this invention according to claim 15 while generating the same operation effect as the hair dyeing method according to claim 11, the number of hair dyeing work decreases further, and generates the prominent effect that time and effort and time can be saved.

[0108] While generating the same operation effect as the hair dyeing method according to claim 11, with the hair dyeing method of this invention according to claim 16, Since the mixture (D) which mixed a treatment agent (A) and hair dye (1) beforehand, or the mixture (C) which mixed the mordant (2) and the treatment agent (B) beforehand further is used, the number of hair dyeing work decreases and the prominent effect that time and effort and time can be saved is generated.

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[Translation done.]

[Report Mistranslation](#)

[Japanese \(whole document in PDF\)](#)